1.9
P69P

LIBRARY
RECEIVED
MAR 12 1938
U.S. Department of Agriculture

THE PLANT DISEASE REPORTER

Issued By

Division of Mycology and Disease Survey

Volume XXII Number 4

March 1, 1938

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

Issued by

THE PLANT DISEASE SURVEY

DIVISION OF MYCOLOGY AND DISEASE SURVEY

Vol. XXII Number 4

March 1, 1938

IN THIS ISSUE

J. L. Bedwell, reporting on the present status of chestnut blight in the Pacific Northwest, page 66, states that the disease has apparently been completely eradicated from that region.

Some new locations in Oregon for Dothidella castanicola and Gnomoniella corylii are reported by Anna E. Jenkins, page 68.

Marvin E. Fowler discusses a canker and dieback disease of Asiatic chestnuts, page 69.

M. A. Smith reports that perithecia of the apple scab fungus are maturing very early in Missouri, page 69.

Further notes on the occurrence of tobacco downy mildew, in Georgia and Florida, are given on page 70.

According to Frank P. McWhorter, page 70, Heterosporium leaf spot of carnation has been found for the first time in Oregon. It caused considerable damage in greenhouses.

Brief notes on plant diseases, page 71, include a report on a Phyllosticta leaf spot of snowberry in England, by Anna E. Jenkins, and a request for further reports on maturity of the apple scab fungus.

THE PRESENT STATUS OF CHESTNUT BLIGHT IN THE PACIFIC NORTHWEST

J. L. Bedwell

British Columbia

Chestnut blight, Endothia parasitica (Murr.) And. and And., was known to have been seriously affecting the trees in an orchard of American, European, and Asiatic chestnuts at Agassiz, British Columbia, as early as 1910. This was the earliest known blight infection in the Pacific Northwest, and since all the trees there had been planted prior to 1890 it might possibly be assumed that blight had been there even before it was discovered in New York where it was first found in the eastern States 1/,2/. In the fall of 1934, when this area was visited by C. F. Gravatt of the Division of Forest Pathology, one infected tree and one healthy tree remained in this orchard3/. Many unhealthy trees had been removed prior to that time by the Dominion authorities. No infections were noted on other chestnut trees in and near Agassiz although many were inspected. Since 1934 this area has not been visited by any member of this Division, but it is understood that the one infected chestnut tree has been destroyed. Canadian pathologists are actively cooperating in the effort to keep the blight from becoming established on the Pacific Coast.

Oregon

Chestnut blight was first discovered in the western United States at Gunter, Oregon, in 1929. Two trees were infected, one a Spanish chestnut (Castanea sativa Mill.) and the other a Paragon (probably C. dentata X C. sativa). These diseased trees were cut and burned4/. In 1934 a sprout from one of the burned but unkilled stumps was found infected. This stump and sprout were completely destroyed by burning the same year3/.

Growing in this orchard are several other chestnuts including C. dentata (Marsh.) Borkh., C. crenata Sieb. & Zucc., Paragon, and Colossal, ranging from 2 to 10 feet in height. A large Spanish chestnut of about 14 inches stump diameter and 25 to 30 feet high is growing on the same place about 100 yards from the originally infected trees, and native western chinquapins (Castanopsis chrysophylla (Hook.) A. deC.) and oaks (Quercus garryana Hook.) are present in the woods surrounding this

---

1/Faull, J. H., and G. H. Graham. Bark disease of the chestnut in British Columbia. Forest Quarterly 12: 201-203. 1914.

2/Shear, C. L., N. E. Stevens, and R. J. Tiller. Endothia parasitica and related species. U. S. Dept. Agr. Bull. 380. 1917. (p. 54, 55).

3/Gravatt, G. F. Chestnut blight in California. Monthly Bull. California State Dept. Agr. 23: 173-177. 1935.

4/Barss, H. P. Recent notes on chestnut blight in Oregon. Plant Disease Reporter 13: 173-174. 1929

mountain homestead. It is fairly certain that there are no other chestnut plantings within 15 to 25 miles of the Gunter area.

A careful examination of the other chestnuts and of the native trees in the adjacent forest at the time the disease was first discovered and each year since has disclosed no further indications of blight with the exception of the blighted sprout found in 1934. Similar inspections have been made each spring and fall since 1934 and will be continued.

Annually numerous additional orchard, shade, and ornamental chestnuts and chinquapins have been inspected, but no other chestnut blight infections have been found or reported to date in Oregon.

Washington

The second chestnut blight infection reported in the western United States was that in Seattle, Washington, discovered in 1932 by G. H. Englerth of the Division of Forest Pathology (then a student at the University of Washington). Dr. John W. Hotson, Professor of Botany at the University, reported the infections and forwarded specimens to the Washington Office of the Division of Forest Pathology. The first infected tree found by Englerth was an American chestnut located in Laurelhurst, a subdivision of Seattle.

By June 26, 1933 four more infected trees had been found. All were American chestnuts and were growing on the University campus. Several trees had been distributed by the University to individuals and a list was kept of the recipients. The Laurelhurst tree was one of those distributed by the University. All of the trees were located by means of the distribution list, but they had all died prior to this inspection with the exception of the infected tree found at Laurelhurst. The cause of death of these other trees was unknown.

An additional infected tree was found on the campus during the winter of 1933-34 and another doubtful one in July of 1936. These trees were cut and the stumps grubbed out, roots and all, and entirely burned as was the case with the ones found in 1932 and 1933.

All the infected trees to date have been American chestnuts although Japanese chestnuts, Chinese chestnuts (C. mollissima Bl.), and Spanish chestnuts are also present in the area where infections were found.

All chestnut trees on the University campus and in the parks and parking strips of the streets in Seattle have been inspected each year by members of this Division. No blight has been found since 1936, and none has been reported by Dr. Hotson, who has watched the trees on the campus and in certain parts of the city.

At the present time, so far as the writer knows, no other infections of chestnut blight have been discovered in the Pacific Northwest nor has there been any spread from the centers found at Agassiz, British Columbia, Seattle, Washington, or Gunter, Oregon. Occasional false rumors have reached this office of the widespread occurrence of blight in this region. This Division realizes the importance of preventing, if possible, the introduction of blight into the region and will do everything possible to prevent its establishment or spread wherever it might occur. Follow-up inspections will be made on all eradicated areas and every case reported as or suspected of being blight will be thoroughly investigated. The cooperation of all farmers, nurserymen, orchardists, nut growers, and State and county inspectors interested in the propagation of chestnuts is earnestly solicited in locating trees suspected of being infected.

(Division of Forest Pathology, Bureau of Plant Industry, 630 P. O. Building, Portland, Oregon. Maintained at Portland in cooperation with the United States Forest Service).

NEW RECORDS OF DOTHIDELLA CASTANICOLA AND GNOMONIELLA CORYLII FROM OREGON

Anna E. Jenkins

The first records, apparently, of Dothidella castanicola (Ell. and Ev.) Bonar, and of Gnomoniella corylii (Batsch.) Sacc., from Jackson County, Oregon, were obtained last July, when these fungi were obtained on leaves of what is probably Castanopsis chrysophylla sempervirens Henry and of Corylus sp, respectively, growing in a forest in the Rogue River National Park, near west entrance to Crater Lake National Park.

The Dothidella is represented in the Mycological Collections of the Bureau of Plant Industry by the type material of D. castanopsidis, as the ascigerous stage was described by Dearness[1]. This is from Star, Lane County, June 22, 1921, J. S. Boyce, and there is also another specimen from Rujada, Lane County, collected by Boyce in June, 1923. Bonar[2] states that this fungus is rather common throughout the California Sierras on Castanopsis sempervirens Dudley. The more widely distributed species of Gnomoniella is represented in the Mycological Collections by specimens from various other States of this country and from other countries. Specimens from Oregon are from Forestgrove, 1894, F. E. Lloyd; Mt. Hood, 1909, J. R. Weir; and Linn County, B. F. Dana, 1931.

(Division of Mycology and Disease Survey).

---

[1] Dearness, J. New and noteworthy fungi. III. Mycologia 16: 155. 1924.
[2] Bonar, L. Studies on some California fungi. Mycologia 20: 294. 1928.

CRYPTODIAPORTHE CASTANEA ON ASIATIC CHESTNUTS

Marvin E. Fowler

For several years considerable attention has been given to the fungi on Asiatic chestnuts in this country. A number of these fungi have been found to be entirely saprophytic; but among others, one that is widespread throughout the eastern United States is known to be parasitic. This fungus, Cryptodiaporthe castanea (Tul.) Wehmeyer (Diaporthe castanea (Tul.) Sacc.) and its conidial form Cytodiplospora castaneae Oud. (Fusicoccum castaneum Sacc.), produces cankers or diebacks on the branches and main stems of both nursery stock and planted trees of Castanea mollissima, C. henryi, and C. crenata. It is sometimes quite damaging in nurseries and may cause the death of planted trees. However, more frequently it kills individual branches, thus decreasing growth and deforming the trees.

This fungus has been found on trees growing on sites of various types, but in general it causes more damage on poor than on good sites. In Virginia it is present in a Japanese chestnut orchard planted about 40 years ago. Several years ago when the fungus was first observed there, the appearance of the trees was such as to indicate that it had been present for some time.

A disease of Castanea sativa (C. vesca, C. vulgaris) in Europe has been attributed to Cryptodiaporthe castanea.

The disease is being studied by the Division of Forest Pathology; specimens of it or any similar disease on chestnuts will be appreciated.

(Division of Forest Pathology, Bureau of Plant Industry).

MATURATION OF PERITHECIA OF THE APPLE SCAB FUNGUS IN MISSOURI, 1938

M. A. Smith

Two collections of scabbed McIntosh apple leaves were examined at Columbia, Missouri, on February 15. In the first collection, which had been overwintered at Mountain Grove, perithecia of Venturia inaequalis were found in abundance. Asci were commonly found and numbers contained colored spores which discharged in water drops. Perithecia were also found in the leaves collected at Columbia. Asci were numerous. A few asci contained ascospores, some of which were mature.

This is the earliest date on record of the finding of mature ascospores of Venturia inaequalis at either Mountain Grove or Columbia.

(Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, and Missouri Agricultural Experiment Station. Feb. 15).

FURTHER NOTES ON TOBACCO DOWNY MILDEW

GEORGIA: J. G. Gaines reported on February 22 that "Downy mildew (Peronospora tabacina) has caused very severe damage in some beds but so far there has been no general outbreak. Weather during the first half of February was unfavorable for the disease; day temperatures were too high and there were few rains and no fogs. The disease is well established throughout the entire tobacco-growing area. Plants are still quite small except in a few early beds."

In 1937 in this area the date of maximum disease development in untreated beds ranged from February 22 to March 16. (E. E. Clayton, Division of Tobacco and Plant Nutrition).

FLORIDA: H. A. Edson writes that downy mildew was found at Mayo, Lafayette County, February 7, and at Brooker, Bradford County, February 8.

HETEROSPORIUM LEAF SPOT OF CARNATION IN OREGON

Frank P. McWhorter

State Inspector J. S. Wieman sent specimens of diseased carnations from Astoria, Oregon. Since he deals especially with greenhouse crops, his comment "have not seen such complete loss as this" seems especially significant.

The specimens represent the first collection of Heterosporium echinulatum which has come to us from an Oregon locality. We have collected small-spored Heterosporium and large-spored Cladosporium species from carnations where the primary injury was due to rust. In the present case, the primary injury seems to be due to a virulent strain of the carnation "fairy ring" Heterosporium. The spores in this Oregon collection measure a little larger than the measurements given for European material but they are decidedly echinulate.

Morphologically, it would be very difficult to distinguish this carnation Heterosporium from H. gracile which in the Northwest is a common and severe parasite on bulbous iris. Bulbous iris was formerly considered

practically immune to H. gracile. The ability of this species to form strains has been well recognized. Morphologically, this collection on carnation differs from H. gracile as it develops in this region in that some spores bear a few large spines or rough echinulations while the remainder bear echinulations in a fashion and distribution similar to H. gracile. A further difference between the Oregon collection and the accepted description of H. echinulatum relates to the length of conidia. They are very long and of the extended growth type characteristic of H. gracile as it develops in the western Oregon climate.

These carnations had been heavily dusted with sulphur. A few spores and conidiophores have been killed by the dust but economic control was not obtained.

(Division of Horticultural Crops and Diseases, Bureau of Plant Industry, and Oregon Agricultural Experiment Station. Feb. 15).

BRIEF NOTES ON PLANT DISEASES

PHYLLOSTICTA LEAF SPOT OF SNOWBERRY: A leaf spot fungus on snowberry (Symphoricarpos albus (L.) Blake var. laevigatus (Fernald) Blake), collected on September 2, 1937, at Kendal, England, by James G. Horsfall, has been identified as ?Phyllosticta symphoricarpi Westd. (Anna E. Jenkins, Division of Mycology and Disease Survey).

APPLE SCAB: On page 69 M. A. Smith reports very early maturity of perithecia and ascospores of the apple scab fungus. Reports from other States would be appreciated.